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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,692	02/27/2002	Hajime Yuzurihara	2271/66827	1594

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12/08/2003

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EXAMINER

ANGEBRANDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,692

Applicant(s)

YUZURIHARA ET AL.

Examiner

Martin J Angebranndt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-11 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 12-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 is dependent upon claim 12 (line 2) and other claims (line 6).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al. '686, in view of Yamada et al. EP 1058249.

Maeda et al. '686 teaches the example corresponding to figure 73(a) or 74(a) at Col. 19/lines 15-48 which uses a gold reflective layer.

Yamada et al. EP 1058249 teaches various dielectric layers which include mixtures, multilayered structures of various oxides, carbides and sulfides, including ZnS, SiC, SiO₂ and ZrO₂ [0056]. Various reflective layers including Al, Au, Ag, Cu, Ta and alloys thereof are disclosed. [0071]. Useful recording layers include AgInSbTe with Ag_{0.5-4}In₃₋₈Sb₅₆₋₆₈Te₂₄₋₃₀ being exemplified in table 1 on page 6, please note that example 6 adds Ge in 0.5%. The increased recording speed when using these recording layer compositions is disclosed. [0016-0023].

It would have been obvious to one skilled in the art to modify the examples of Maeda et al. '686 by using other reflective layer materials known in the art and disclosed as functional

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equivalents, such as Ag or Ag-Cu alloys, in place of the Au with a reasonable expectation of forming a useful optical recording medium. Further, it would have been obvious to modify the resulting medium by using other recording layers, such as the AgInSbTe layers of Yamada et al. EP 1058249 to gain advantages attributed by this reference to these recording layers such as increased sensitivity/recording speed.

5. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. EP 0475452.

Yamashita et al. EP 0475452 teaches optical or magneto-optical recording media using stabilized zirconia as a dielectric layer material. Optical recording layers disclosed include phase change materials (8/8/26-57). The use of SiO_2 , CaO , MgO , LaO , Sc_2O_3 , Y_2O_3 and others. (6/32-47). The reflective layer may be Al, Cu, Au, Ag or other metals. (5/29-32). See examples disclosed with respect to figure 8.

It would have been obvious to modify example 8 by using a phase change recording layer and a silver or silver/copper alloy layer, in place of the magneto-optic recording layer and the Al reflective layer based upon the disclosure of equivalence. Further, it would have been obvious to modify the invention by using SiO_2 , CaO , MgO , LaO , Sc_2O_3 or Y_2O_3 , in place of the BeO or Al_2O_3 with a reasonable expectation of stabilizing the zirconia.

6. Claims 1-3,5 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. EP 0475452, further in view of Yura JP 01-258222, JP 61-180945 or JP 04-032043.

Yura JP 01-258222 teaches the addition of various oxides to zirconia in amounts of a few mole %. The recording layer is a magnetic recording medium.

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JP 61-180945 teaches optical recording media with silica, zirconia and niobium oxide protective layers. Note that the combination of samples 2 and 3 are better than other mixtures or silicon dioxide alone (table 1, page 4)

JP 04-032043 teaches magneto-optical recording media, which use mixed zirconia, silica dioxide protective layers. The zirconia may be present in an amount of 36-46%.

In addition to the basis provided above, it would have been obvious to one skilled in the art to modify the teachings of Yamashita et al. EP 0475452 by using the specific amounts of the other oxides to the zirconia to achieve the desired effects based upon the teachings of Yura JP 01-258222, JP 61-180945 or JP 04-032043.

7. Claims 1-5 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. EP 0475452, further in view of either of Yura JP 01-258222, JP 61-180945 or JP 04-032043 combined with either Yamada et al. EP 1058249 or Ohno et al. EP 087868

Ohno et al. EP 087868 teaches optical recording media using recording layers embraced by the formula shown on page 5 at lines 3-54. The additives have benefits including stabilization and high speed crystallization. (5/17-24). See example 8.

In addition to the basis provided above, it would have been obvious to one skilled in the art to modify the combination of Yamashita et al. EP 0475452, further in view of either of Yura JP 01-258222, JP 61-180945 or JP 04-032043 by using other recording layers known in the art, such as those taught by either Yamada et al. EP 1058249 or Ohno et al. EP 087868 with a reasonable expectation of forming a useful optical recording medium with the benefits ascribed to the recording layers by the references.

8. Claims 6-11 are allowable over the prior art.

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9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 63-098854, JP 55-034239 and JP 61-122949 teach optical recording media with zirconia-silica protective layers

JP 02-252150 teaches optical recording media with zirconia-yttria protective layers.

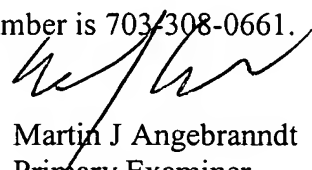
JP 05-217211, Zhou et al. '229 and JP 11-086341 teach multilayered dielectrics where the carbide layer is closer to the recording layer.

JP 11-335823 teaches zirconia, silica and zinc sulfide dielectric layers in optical recording media.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebranndt whose telephone number is 703-308-4397. The examiner can normally be reached on Mondays-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703-308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Martin J Angebranndt
Primary Examiner
Art Unit 1756

November 25, 2003